UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,338	06/07/2000	John G. Rohrbaugh	10003687-1	8717

			EXAMINER
22878	7590	11/05/2003	TORRES, JOSEPH D

AGILENT TECHNOLOGIES, INC.
INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT.
P.O. BOX 7599
M/S DL429
LOVELAND, CO 80537-0599

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the c ver sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 October 2003</u> .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>17 March 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   In view of the current Amendment C of Paper No. 13, the Examiner withdraws all

35 USC § 112 rejections.

Response to Arguments

2.   Applicant's arguments with respect to amended claims 6, 7, 19 and 20, and

previously examined claims 1-5 and 8-18 filed 17 October 2003 have been fully

considered but they are not persuasive.

The Applicant contends, "The fact that Chakradhar et al. 'does not randomly assign

values to primary inputs and scan FFs that were left unspecified' does not in any way

suggest that 'Chakradhar teaches setting the values ...using a non-random filling

methodology.'" The Examiner disagrees and asserts that in col. 10, lines 14-16 of

Chakradhar, Chakradhar explicitly states: "We assume that the test generator does not

randomly assign values to primary inputs and scan FFs that were left unspecified in the

test sequence." If the "test generator does not randomly assign values to primary inputs

and scan FFs that were left unspecified in the test sequence" then a deterministic

method necessarily is used in the assignment of "values to primary inputs and scan FFs

that were left unspecified in the test sequence". A deterministic method for assigning

"values to primary inputs and scan FFs that were left unspecified in the test sequence"

is a non-random method for assigning "values to primary inputs and scan FFs that were

left unspecified in the test sequence". In addition, in col. 13, lines 65-67 of Chakradhar,

Chakradhar explicitly teaches, "a popular technique is to randomly or judiciously specify

unspecified signals in order to drop test vectors or sequences from the test set".

Judiciously specifying unspecified signals is clearly a deterministic non-random means

for specifying unspecified signals. Furthermore, compaction as taught in Chakradhar is

a means for judiciously (i.e., deterministically; Note; a deterministic means for specifying

unspecified signals is a non-random means) assigning some of the unspecified bits to

values of 0 or 1 "in order to drop test vectors or sequences from the test set" (col. 13,

lines 65-67 of Chakradhar).

The Applicant contends, "this statement actually refers to the common practice of

randomly filling unspecified bits and that this common practice is not being followed

here in Chakradhar et al". In the statement of col. 10, lines 14-16 of Chakradhar ("We

assume that the test generator does not randomly assign values to primary inputs and

scan FFs that were left unspecified in the test sequence."), Chakradhar does not refer to

any "practice", but explicitly states "the test generator does not randomly assign values

to primary inputs and scan FFs that were left unspecified in the test sequence". If "the

test generator does not randomly assign values to primary inputs and scan FFs that

were left unspecified in the test sequence", then the test generator does not randomly

fill values of the primary inputs and scan FFs that were left unspecified in the test

sequence, that is; the primary inputs and scan FFs that were left unspecified in the test

sequence are assigned or filled in a non-random deterministic fashion. Furthermore,

compaction as taught in Chakradhar is a means for judiciously (i.e., deterministically;

Note; a deterministic means for specifying unspecified signals is a non-random means)

assigning some of the unspecified bits to values of 0 or 1 "in order to drop test vectors

or sequences from the test set" (col. 13, lines 65-67 of Chakradhar).

The Examiner disagrees with the applicant and maintains all Prior Art rejections of

amended claims 6, 7, 19 and 20, and previously examined claims 1-5 and 8-18. All

amendments and arguments by the applicant have been considered. It is the

Examiner's conclusion that amen amended claims 6, 7, 19 and 20, and previously

examined claims 1-5 and 8-18 are not patentably distinct or non-obvious over the prior

art of record in view of the reference, Chakradhar, Srimat T. et al. (US 5726996 A) as

applied in the last office action, Paper No. 12. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1, 6-11, 14 and 21 are rejected under 35 U.S.C. 102(b) as being

anticipated by Chakradhar, Srimat T. et al. (US 5726996 A, hereafter referred to as

Chakradhar).

35 U.S.C. 102(b) rejection of claims 1, 8-11 and 14.

See Paper No. 12 for detailed action of prior rejections.

35 U.S.C. 102(b) rejection of claim 6.

Col. 10, lines 11-12 of Chakradhar teach not all primary inputs and scan FFs have to be assigned values of 0 or 1, in other words, not all unspecified don't care bit positions have to be assigned values of 0 or 1; since the plurality of unspecified bit positions of the at least one test vector need not be assigned, the at least one test vector can be compressed.

35 U.S.C. 102(b) rejection of claim 7.

Compaction is a means for judiciously (i.e., deterministically) assigning some of the unspecified bits to values of 0 or 1. In col. 13, lines 65-67, Chakradhar teaches Prior Art methods for random filling of unspecified bits. A compaction algorithm combined with random filling of unspecified bits is a means for non-randomly filling a plurality of unspecified bits using compaction and randomly filling remaining unspecified bits (bits that were not specified during compaction) using random-filing.

35 U.S.C. 102(b) rejection of claim 21.

Col. 5, lines 39-43, teaches test vectors with unassigned values. Test vectors with unassigned values are compressed test vectors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-5, 12, 13, 15-20 and 22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Chakradhar, Srimat T. et al. (US 5726996 A, hereafter referred to as

Chakradhar).

35 U.S.C. 103(a) rejection of claims 2-5, 12, 13 and 15-19.

See Paper No. 12 for detailed action of prior rejections.

35 U.S.C. 103(a) rejection of claim 20.

Col. 10, lines 11-12 of Chakradhar teach not all primary inputs and scan FFs have to be

assigned values of 0 or 1, in other words, not all unspecified don't care bit positions

have to be assigned values of 0 or 1; since the plurality of unspecified bit positions of the at least one test vector need not be assigned, the at least one test vector can be compressed.

35 U.S.C. 103(a) rejection of claim 22.

Col. 5, lines 39-43, teaches test vectors with unassigned values. Test vectors with unassigned values are compressed test vectors.
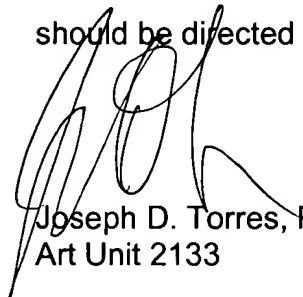
Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph D. Torres whose telephone number is (703)

308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703)-746-7240.

Joseph D. Torres, PhD
Art Unit 2133

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100